North Carolina
Lab-Oratory
N.C. Department of Health and Human Services / State Laboratory of Public Health

INSIDE this issue

Lab-Oratory, Summer 2010 **Number 97**

From the Director's Chair

Leslie A. Wolf, PhD, HCLD (ABB)
Laboratory Director

This has certainly been a challenging year for us all due to the economic crisis. Nevertheless, we strive to meet our mission of providing quality laboratory test results to our customers.

In the last issue of LabOratory, I provided the background for construction of the new facility for the State Laboratory of Public Health and Office of Chief Medical Examiner. In this issue, I want to provide a brief update on the construction process.

Several key staff members who will be attending construction meetings and making on-site visits attended safety training provided by the general contractor BE&K. I was very impressed with the contractor's commitment to safety at the site. Part of their safety policy is that all visitors must have attended safety training and must wear hard hats, steel-toed boots, safety glasses and vests while at the site.

The primary activity in February was preparing the site for construction by creating an entrance and clearing the minimal amount of trees from the site. Since then, grading of the site has continued and the construction of foundations, foundation walls, columns and sub-grade plumbing has begun. Sanitary sewer and storm drainage lines have been completed.

Cont. on page 2

MISSION statement

The State Laboratory of Public Health provides certain medical and environmental laboratory services (testing, consultation and training) to public and private health provider organizations responsible for the promotion, protection and assurance of the health of North Carolina citizens.

Director's Chair cont. from page 1

The project is on schedule at this time, and we are very pleased with the progress to date. Because a picture is worth a thousand words, I will leave you with a photo taken July 7, 2010 by our Assistant Director for Operations, Mike Kaufman. Have a safe summer!

Submitted by:
Leslie A. Wolf, PhD, Laboratory Director, NCSLPH

What's Next for Newborn Screening?

On May 21, 2010, Kathleen Sebelius, Secretary of Health and Human Services (HHS), formally added Severe Combined Immunodeficiency (SCID) to the previous panel of 29 core conditions for newborn screening. In addition, related T-cell lymphocyte deficiencies were added to the list of secondary conditions. The decision came in response to recommendations from the Secretary's Advisory Committee on Heritable Disorders in Newborns and Children (SACHDNC).

SCID is most commonly known as "Bubble Boy Disease", named for David Vetter, a Texas boy who spent his short life inside a sterile plastic cocoon to avoid infections. SCID is a group of disorders characterized by the absence of an immune system, causing infants to develop recurrent infections, leading to death in the first year of life.

The disease affects one in 40,000 to 100,000 newborns. If the affected babies are not identified and treated, they usually die within a year. However, if they receive a bone marrow transplant within a few months of life, they can live into their twenties and possibly much longer. Dr. Rebecca H. Buckley of the Immune Deficiency Foundation and Duke University Medical Center did her first bone marrow transplant for SCID in 1982. Of the 165 toddlers she has treated, 125 (76%) have survived. The oldest is now 28 and finishing her third year of medical school.

Early this year, the Wisconsin State Laboratory of Hygiene's Newborn Screening Program identified the first baby with classical SCID. Currently, Wisconsin and Massachusetts are the only two states that screen for SCID. A molecular assay that detects the absence of TREC (T-cell Receptor Excision Circles) using dried bloodspots was developed by Dr. Mei Baker of the Wisconsin Newborn Screening Program. TRECs are small pieces of DNA generated in T-cells as they mature. The TREC assay has been proved to be the most effective way to detect SCID so far. However, many new screening methods, including a digital microfluidics system, are under development. A grant from the Centers for Disease Control and Prevention (CDC) has allowed both the Wisconsin and Massachusetts programs to train other state laboratories to perform the TREC assay.

According to preliminary data from the Children's Hospital of Wisconsin, medical care for a single baby with a late SCID diagnosis costs an average of $2.2 million. Medical care for one baby with an early SCID diagnosis costs about $250,000. While the cost of SCID testing for the approximately 130,000 babies born annually in North Carolina would be significant, the savings from the early treatment intervention of one positive diagnosis would cover a large

Cont. on page 3

Newborn Screening cont. from page 2

portion of testing costs for all of the state's babies for the entire year.

With current limitations of space and funding, the North Carolina Newborn Screening Program would find it difficult to add screening for SCID until moving into the new facility in 2012. In the meantime, screening methods and evolving technology will be reviewed in anticipation of the future addition of this recommended disorder.

REFERENCES:

Press Release: "Secretary of Health and Human Services Adopts National Standard for Newborn Screening"

Press Release: "WI Public Health Lab Identifies First SCID Baby Using new TREC Assay"

"U.S. Says to Screen Babies for 'Bubble Boy Disease'" by Frederik Joelving

Submitted by:
Dr. Shu Chaing,
Technical Supervisor,
NC Newborn Screening Program

www.ncpha.com

The North Carolina Public Health Association (NCPHA) was formed in 1909 by a group of concerned county superintendents of health in an effort to promote public health in our state. One hundred years later, our association of individuals and organizations continues working to improve the public's health through political advocacy, public awareness, professional development, and serving as an interface between research and practice.

Please join the membership of NCPHA as we continue to promote public health in North Carolina with the goal of helping to make our state the Healthiest State in the Nation. Be a part of our three-year commemoration. The first year, we returned to Asheville where our association was formed. In 2010, we will be traveling to Wilmington, a city rich in public health history, and in 2011 we will be traveling to Charlotte where the first meeting of our association took place.

But don't stop there! Be sure to join the **Laboratory Section** of NCPHA for a very informative education day at the Annual Education Conference October 27-29. Membership forms and conference information may be found on the NCPHA web site, www.ncpha.com. **Please mark your calendar and plan to join us in 2010.**

Mark Your Calendars!!
Friday October 8, 2010

6th Annual Clinical Laboratory Day

Yea for QA!
A Winning Approach to Quality Assurance

Registration fee is only $35 and includes conference materials, breaks AND lunch!!

Location: Wake Technical Community College, Raleigh, NC

6.25 PACE credit hours will be awarded!

Program Description

Quality assurance is an essential part of a laboratory's success. This one-day conference will address many aspects of quality assurance. Local, state and national speakers will discuss related topics, including Quality System Essentials, CLIA regulations, and time management. An esteemed panel of experts will also be available to answer a variety of laboratory questions.

Program Objectives

1. Illustrate a simple model for understanding quality in the laboratory which includes the twelve building blocks of quality.

2. Define four types of quality costs – prevention, appraisal, internal failure, and external failure.

3. Summarize the top ten deficiencies found during CLIA inspections.

4. Discuss challenges and problems facing busy employees.

Conference Speakers

Lucia Berte, MA, MT(ASCP)SBB, DLM; CQA(ASQ)CMQ
President
Laboratories Made Better! P.C., Broomfield, Colorado

Tim Dumas, MLT, NSA professional speaker
Speaker and Consultant
Tim Dumas Speaking and Consulting, Raleigh, NC

Karen Sanderson, MT(ASCP)SC
Laboratory Consultant
NCDHHS, Division of Health Service Regulation
Acute and Home Care Licensure and Certification Section, Raleigh, NC

Be on the lookout for our brochure with more information and the registration link coming soon!!

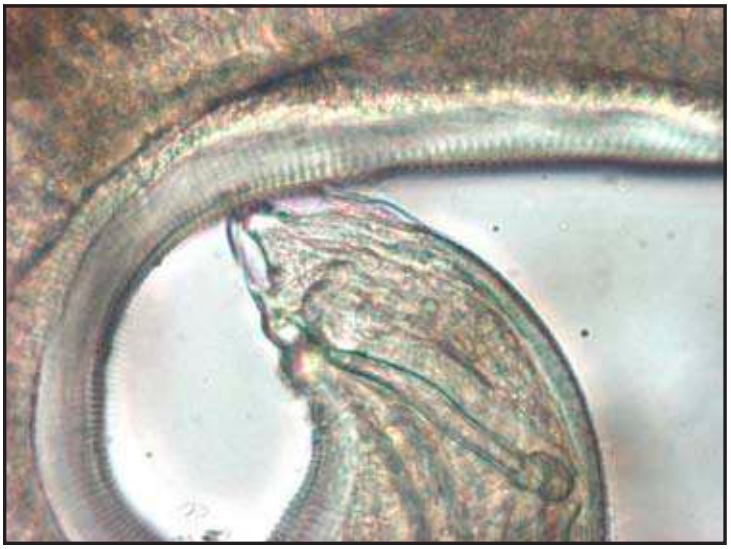
An Unusual Find in Parasitology

The *Enterobius vermicularis* can be found primarily in the cecum, appendix, colon, and rectum. Routine diagnosis is best done by an early morning tape preparation done before washing or using the toilet. When the laboratory examines the slide, what is normally seen are only the eggs. Once in a great while, there will also be a gravid female or two with the eggs. The females come out of the anus at night and lay their partially embryonated eggs just outside and then go back in. So the eggs are only occasionally found in fecal specimens. Once in a great while the female can be washed off of the skin and found when collecting a urine specimen. It only takes about 4 to 6 hours for the eggs to become infective at this point. The males are found less frequently in feces or on cellulose tape preparations than the females and are generally less than one third the size of the females.

This worm was found in a Formalin Ethyl Acetate concentration of a stool specimen.

This is the anterior end of a male Enterobius vermicularis worm (pinworm) at 10X magnification.

This is the posterior end with spicule at 10X and then at 40X magnification.



REFERENCES:

Atlas of Human Parasitology by Lawrence Ash and Thomas Orihel

The following two images are the next two sequential pieces of the midsection at 10X magnification.

Lab Test of the Quarter

Vitamin D Testing (25-OH vitamin D test)

Also known as: Calcidiol (25-hydroxy-vitamin D), Vitamin D_2, Vitamin D_3, Calcitriol (1,25 dihydroxy-vitamin D)[1,3]

Normal Range is 30.0 to 74.0 nanograms per milliliter (ng/mL).[3]

Vitamin D is a fat soluble vitamin, vital for strong bones, and is absorbed from the intestine like a fat. A deficiency of Vitamin D at any stage of life is cause for concern.[2] Testing for Vitamin D level is usually ordered when:

- Patient has abnormal Calcium level
- Patient has abnormal Phosphorous level
- Patient has abnormal parathyroid hormone level
- Before treating patient for osteoporosis
- Patient is being monitored for treatment of Vitamin D deficiency[1]

Lower than normal levels suggest a Vitamin D deficiency. This could be a result of:

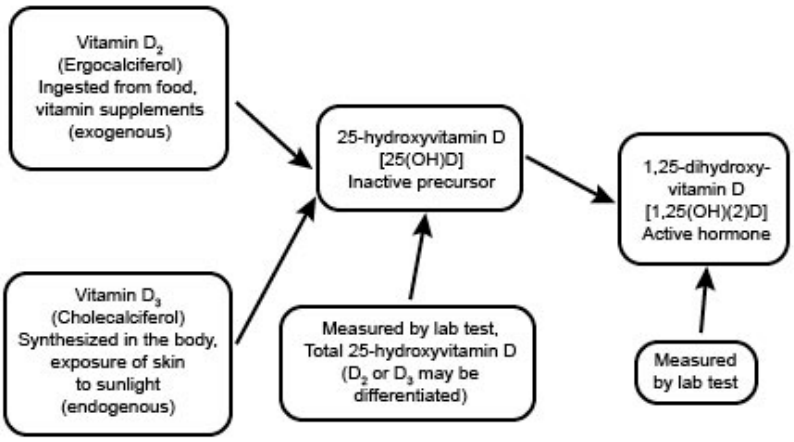
- Lack of exposure to sun
- Lack of adequate Vitamin D in the diet
- Liver and kidney diseases
- Malabsorption
- Use of certain medicines (ex: phenytoin, phenobarbital, and rifampin)[3]

There are two forms of Vitamin D that are measured: 25-hydroxyvitamin D and 1.25-dihydroxyvitamin D. 25-hydroxyvitamin D is commonly measured because of its long half-life and higher concentrations in the bloodstream.[1]

Vitamin D comes from two sources: endogenous (produced on skin after exposure to sunlight) and exogenous (ingested in food and supplements). The chemical structures are different and they are named Vitamin D_2 (ergocalciferol) and Vitamin D_3 (Cholecalciferol). Vitamin D_2 is found in foods and supplements and Vitamin D_3 is derived from both endogenous and exogenous sources.[1,2]

Many tests for 25-hydroxyvitamin D do not distinguish between Vitamin D_2 and Vitamin D_3 forms of the vitamin and report the total 25-hydroxyvitamin D. Newer methods may report Vitamin D_2 and Vitamin D_3 levels and add them together for the total 25-hydroxyvitamin D concentration. This total concentration is used to evaluate the patient's Vitamin D status.[1] Currently there is no universal consensus about a treatment cut-off level, studies suggest that a minimum level of 25 to 35 ng/mL is needed to avoid having adverse effects of a Vitamin D deficiency.[2]

Sources and Forms of Vitamin D



New studies suggest that genetics could help to determine if a patient is at risk for Vitamin D deficiency. An article that will be published in an upcoming issue of *The Lancet* outlines a study conducted on 34,000 study participants. The participant's level of Vitamin D was determined then a genetic analysis was performed to locate specific common sites on their genomes that appear to be linked to Vitamin D concentration levels. The researchers were able to pinpoint 3 sites that are located near the genes the authors say are involved with the synthesis of cholesterol, Vitamin D metabolism and Vitamin D transport. The study participants who had the particular genotype that lined up with these 3 sites were 2.5 times more likely to have a deficiency of Vitamin D.[4]

REFERENCES:

1. ALT. Lab Tests On-Line. 2009. Available at www.labtestsonline.org/understanding/analytes/vitamin_d/.html. Accessed June 17, 2010.
2. ALT. Mayo Medical Laboratories. Available at www.mayomedicallaboratories.com/articles/vitamind/index.html. Accessed June 17, 2010.
3. ALT. MedlinePlus. 2008. Available at www.nlm.nih.gov/medlineplus/print/ency/article/003569.htm. Accessed June 17, 2010.
4. ALT. MedlinePlus. 2010. Available at www.nlm.nih.gov/medlineplus/print/news/fullstory_99785.html.

N.C. Public Health, 100 years ago...

Bulletin of the North Carolina Board of Health
Vol. XXV. April 1910. No. 1

The Sanitary Privy
By Rev. George W. Lay

The Requirements of a proper privy are, first, as the name suggests, that it should insure privacy and comfort to those who use it; second, that it should prevent pollution of the soil; third, that it should prevent the possibility of flies, insects, chickens, dogs or other animals conveying infection to human beings.

The first requirement is essential to health. If it is disagreeable or distasteful in any way, many people are prevented from using the privy as regularly and frequently as they should do, and their health suffers.

The second requirement is necessary; for, if the contents of the privy are disposed of in such a way as to come in contact with the person of human beings, either by their treading on them or touching them with other parts of the body, disease is likely to be spread. Careless disposal of the excreta also contaminates strawberries, lettuce, celery, radishes and other vegetables eaten raw; and may also contaminate the hands of those who prepare other vegetables for the tables, and thus convey disease. Of course, when the excreta are allowed to get to the water supply, they also contaminate the water for drinking purposes; and this is an extensive means of spreading typhoid fever especially.

The third requirement is the most important, and the one less frequently guarded against. Animals will spread the excreta around where they would not otherwise come in contact with the person of human beings, and flies always make a practice of flying from any sort of filth out of doors between meals to the kitchen and table at meal times of houses which are not carefully screened."

The necessary points in constructing and using privies.

First. The privy should not be offensive. If it is, it will be placed at a long distance from the house.

Second. The creation of some other more pleasant or harmless odor has no effect whatever in destroying the disease-producing qualities of the contents of the privy.

Third. *Under ordinary circumstances* it is utterly impossible to disinfect the excreta thoroughly.* The disinfectant penetrates but a slight distance into the solid matter. Lime does not prevent infection. The flies that gave our soldiers typhoid fever at Chickamauga showed on their feet lime that had been used for disinfecting, but they brought, at the same time, the disease germs that proved so fatal.

Fourth: The contents of the privy should be screened absolutely from all possible contact with flies, or other living creatures which might carry the disease.

Fifth. The privy box, or space used for excreta, should be ventilated.

Sixth. The privy itself should be fly-proof and ventilated.

Seventh. The privy should be so arranged that one would have to go as short a distance as possible from the house and would not be unnecessarily exposed to observation.

Eighth. The privy should be easy to clean and, if possible, its management should be largely in the power of any member of the household."

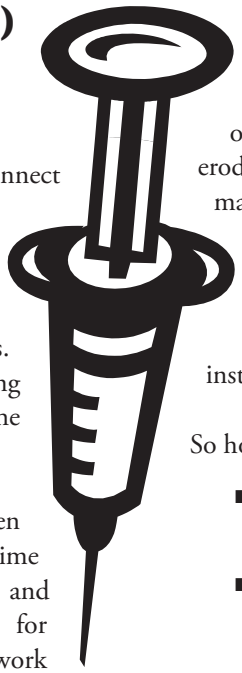
**Where the requirements of complete disinfection are serious, as in cholera, or typhoid, it is possible to accomplish this end under the direction of the physician. A considerable amount of disinfecting fluid must then be used, and sufficient time allowed to insure complete disintegration of solid matter. This necessitates a bad odor to be endured for the whole of this time."*

EDITORIAL

Needle Points

By Lisa O. Ballance, BSMT (ASCP), CLC (AMT)

How to Build a Bridge



Bridges are useful things. They connect us and provide a way to cross over obstacles. When the public we serve is in need of medical care, they want us to connect them with the necessary services despite the obstacles. When working in healthcare, being a bridge builder just comes with the territory.

Phlebotomists build bridges between patients and accurate results each time they properly identify a patient and assure a quality sample is collected for testing. They also provide the framework to support the trust physicians place in the testing the laboratory performs. From a customer service standpoint, the rapport built with patients by those who draw their blood can create an overarching bridge of good faith for the facility.

But make no mistake. Building good bridges is hard work. And according to essayist Phyllis Theroux, mistakes are the usual bridge between inexperience and wisdom. However, in the realm of healthcare, mistakes are something we can't afford. We have to span the gulf of inexperience in those new to phlebotomy or newly assigned blood collection duties by providing comprehensive training, adequate supervision, and ongoing competence assessments. Just like every new bridge, the technical skill of an aspiring phlebotomist should be constructed according to recognized standards and inspected regularly to ensure it hasn't been compromised. Failing to do so can create a safety hazard that places all involved at risk.

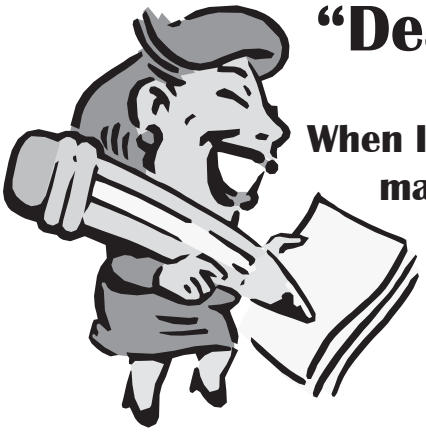
Some bridges are designed according to code but become treacherous over time. When proper protocol during blood sample collection erodes and procedural short-cuts creep in, the damage can manifest in many forms such as patient mismanagement and phlebotomy-related injuries. Maintaining good bridges with our patients also requires having to draw lines regarding employee performance. Left unattended, poor phlebotomy technique can take a plank or two out of the bridge patients are trying to cross to recovered health. And in some instances, it can burn the bridge entirely.

So how can we safeguard the bridges we build in the healthcare arena?

- Recognize the phlebotomist's role as an indispensible part of the network of care each facility provides.
- Invest in proper training and continuing education for those with blood collection responsibilities using credible and current resources as the blueprint.
- Establish comprehensive written procedures for blood specimen collection using the CLSI standards, OSHA regulations, facility policy, and inspection/accreditation requirements as the four cornerstones.
- Foster a workplace infrastructure that promotes teamwork and tears down interdepartmental walls.
- Create a culture of continuous process improvement that supports the identification and removal of barriers to proper patient care and efficient workflow.
- Link rewards and recognition to those employees who model best practices in technical expertise, professionalism and customer service.

When successfully built, patients will praise the bridge that carries them over to improved health. And as every good bridge builder knows, it's all about crossing safely to the other side.

Lisa O. Ballance is the Director of Online Education for the Center for Phlebotomy Education, Inc. (www.phlebotomy.com) located in Corydon, Indiana.



"Dear Lab-bey"

When I run out of mailing cans of one color (department), may I mark through the department and use the can for another specimen?

NO! By doing this, you will dramatically delay your test results!

The NC State Laboratory of Public Health receives approximately 1000 specimen cans from the NC courier system, US Postal Service and FedEx each day. A color coding system has been utilized to ease the burden on the mailroom team and to provide faster turn around time. When the team receives the specimen cans, they group the cans by color and send them to the corresponding laboratory. If the cans are misused and specimens are placed into incorrect containers, the testing process is delayed. The specimen will go to the wrong laboratory and delay the test results by at least one day. Please note that writing on the can with a Sharpie® will not help your specimen get to the correct laboratory any faster!

The color codes are:

- **Gold** – Chlamydia/Gonorrhea
- **White** – Syphilis Serology
- **Small White** – Sickle Cell Follow-up
- **Green** – Blood Lead
- **Blue** – Special Serology
- **Dark Yellow** – HIV testing
- **Light Yellow** – Hepatitis
- **Lavender and Ivory** – Water Microbiology
- **Salmon** – Tuberculosis
- **Pink** – Enteric and Parasitology

Please pay careful attention to the specimen cans you use! The NCSLPH tries to provide accurate tests results in a timely manner, so please help us by placing samples into the correct containers. To order new cans, go to the NCSLPH website, *http://slph.ncpublichealth.com*.

Submitted by:
Kristy Breedlove, BS
Laboratory Improvement Consultant
NCSLPH

"Dear Lab-bey..."

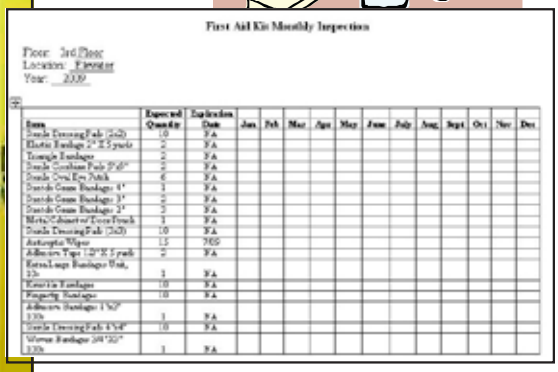
If you have a technical laboratory question that you would like to have answered please submit it to: tracey.shives@dhhs.nc.gov.

The answer to your question may be featured in the next edition of Lab-Oratory.

The Safety Corner

What's *Right* with This Picture?

First Aid Kits



Have you ever dug into the First Aid Kit only to find antibiotic ointment that expired two years prior? Unfortunately, this happens more often than you would think! One of the first places a co-worker or patient will go to in case of an emergency is the First Aid kit. In order to ensure a safe work environment and to comply with OSHA, kits should be checked often to ensure all contents are stocked and within expiration date. With a checklist, this inspection can be done in just a few minutes.

During the inspection, certain items must be examined. This inspection should ensure that the kit has all the contents. Any supplies with an expiration date such as antibiotic and burn cream should be checked to make sure they have not expired. ANSI Z308.1-2003, Minimum Requirements for Work Place First Aid Kits suggests the following list for contents:

- 1 absorbent compress, 32 square inch with no side smaller than 4 inches
- 16 adhesive bandages, 1X3 in.
- 10 antiseptic ointments
- 6 Antibiotic ointments
- 6 burn creams
- 4 medical exam gloves
- 4 Sterile pads, 3X3 in.
- 1 Triangular bandage
- 16 Analgesic/Pain reliever (i.e. Tylenol, Aspirin)
- 4 Bandage compress (2")
- 2 Bandage compress (3")
- 1 Bandage compress (4")
- 1 Breathing barrier
- 1 Burn dressing
- 1 Cold pack
- 2 Eye covering
- 1 Eye wash (1 oz)
- 1 Roller bandage (4")
- 1 Roller bandage (2")

This inspection takes no more than five minutes a month so please ensure all of your facility's first aid kits are being inspected. Ask your supervisor to assign this important responsibility to an employee. Your co-workers will thank you!

The contents should be approved by a physician to ensure the kit meets the needs of your facility. Each facility is different and in turn, requires different safety materials.

If you need a copy of the First Aid Kit content checklist, please contact Kristy Breedlove at kristy.breedlove@dhhs.nc.gov or (919) 733-7186. Look for the next installment of The Safety Corner when we will continue with the series, "What's *Right* With This Picture"!

Submitted by:
Kristy Breedlove, BS
Laboratory Improvement Consultant
NCSLPH

State Lab

- Tiffany Perdue—Laboratory Improvement
- Monique Venable—Cancer Cytology Cytoprep Lab
- Shawanda Long—Cancer Cytology
- William Butler—Viral Culture/Rabies Lab
- Jessica Vasquez— Viral Culture/Rabies Lab
- Jolene Hieronymi—Microbiology
- Kristi Jenkins—BTEP Medical Technologist located at the Buncombe Regional Office
- Four interns through the "Pathways to Public Health" program
  - Katy Davis (interning in Environmental Sciences)
  - Maura Leonard (interning in Virology / Molecular)
  - Janet Smith (interning in Microbiology)
  - Erika Tutko (interning in BTEP).

Health Departments

- Susan Carter—Brunswick County Health Department
- Latricia Campbell—Brunswick County Health Department

Please contact Kristy Breedlove at (919) 733-7186 or kristy.breedlove@dhhs.nc.gov if you would like to recognize a new co-worker at your facility!

Kudos!

The NCSLPH will continue to recognize exemplary employees by awarding the State Lab Employee of the Quarter. Employees are encouraged to nominate co-workers who demonstrategreat work ethics and always lend a helping hand.

The Winter recipient of the award was Carla Wiggins Frederick in the Virology/Serology section. Carla has been employed at the NC-SLPH for more than 10 years, and during that time she has demonstrated a dedication not only to the laboratory, but also to her fellow co-workers. She has served as the Lead Worker for the Virology/Serology Clerical Unit since 2001, using her excellent leadership and teamwork skills on a daily basis. She is adept at pulling her workgroup together into a cohesive team so that the work is accomplished with efficiency and accuracy, and her positive attitude helps ensure that everyone in the office gets along with one another. Carla has also taken on the role of designated requisitioner for the Virology/Serology Unit, and always makes sure that unit purchases are made in a timely manner in spite of frequent changes to purchasing rules and requirements. Carla is always willing to go above and beyond the "call of duty" to ensure that test results are delivered to our clients as efficiently as possible. Her dedication to quality work positively impacts the patient population served by the State Laboratory, and her calm demeanor contributes to a pleasant work environment for her co-workers. Thank you, Carla, for being a great employee and co-worker!

The Spring recipient of the award was Elizabeth White in the Microbiology section. She was nominated in the categories of Service Excellence and Significant Contribution to Morale or Effectiveness of the Lab. Elizabeth is an energetic and highly motivated person who makes many contributions to the laboratory. She is a one-person Task Force in Microbiology where she serves as the only office assistant, performing data entry, mail processing, E-procurement, travel requests and reimbursements, and monitoring budgets. She serves on committees such as Holiday Celebrations, Condolence Fund and Birthday Celebrations within Microbiology. Elizabeth has a genuine concern for her co-workers and monitors their well-being through daily conversations. She has assisted other units within the laboratory with E-procurement when they are short staffed. She is like the Energizer Bunny, working hard to complete her tasks by set deadlines and assisting others as needed. Elizabeth maintains a positive attitude that inspires her co-workers. Thank you, Elizabeth, for your commitment to excellence and your dedication to SLPH.

The Summer recipient of the award is Janice West from the Laboratory Improvement Unit! Janice was nominated in the categories of Teamwork, Volunteerism and Significant Contribution to Morale or Effectiveness of the Laboratory. Over the last year, Laboratory Improvement experienced severe staffing shortages, and Janice willingly took on extra duties to keep core activities functional. She doesn't complain and continues to volunteer for duties. Janice is an "ideas" person who challenges us to consider new ways of doing business, such as using QUIA surveys for more than just surveys. She has been an integral member of the Happiness Committee and Lab Celebration Week planning committee for several years, finding new ways to involve employees and boost morale in the laboratory. Thanks, Janice, for your dedication to your Unit and to the laboratory as a whole!

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Kudos! cont. from page 12

We would also like to recognize the NCSLPH PFGE lab (Shadia Rath, Denise Griffin, Savitri Mullapudi, and Kim Zullo) for their continued hard work, troubleshooting skills, and patience while we anxiously await our new lab! Because of the condition of the power in the Bath Building and the sale of the land adjacent to the building, they have to travel to the modular unit (aka 'the trailer') on Dix campus in order to run the electrophoresis chambers for PFGE. They make this trek anywhere from three to seven (or more) times a week! The data they generate helps provide Epidemiology with the necessary tools to connect clusters and identify outbreaks caused by Salmonella, E. coli, and Listeria.

Bladen County Health Department welcomed Tiffani Shaw, MLT(ASCP) to the Laboratory in October, 2009. Tiffani and family welcomed little Omar Powell April 21, 2010. Congrats to Tiffani and your new bundle of joy!

The NCSLPH has said goodbye to many treasured employees in the last few months to retirement:

- Georgena Millar—Laboratory Improvement
- Vickie Whitaker—QA Manager
- Lee Outlaw—Microbiology
- Susan Weavil—Newborn Screening
- Jake Rogers—Administration
- Brenda Nichols—Environmental
- Vickie Painter—Environmental

We'll miss you all but wish you the best of luck!

Please contact Kristy Breedlove at (919) 733-7186 or kristy.breedlove@dhhs.nc.gov if you would like to recognize a co-worker at your facility.

dhhs nc department of health and human services

NCPH North Carolina Public Health

State of North Carolina • Beverly Eaves Perdue, Governor
Department of Health and Human Services • Lanier M. Cansler, Secretary
Division of Public Health • www.ncdhhs.gov

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